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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,336	12/15/2003	Hyunjun Kim	P17176	3721
28062	7590	07/31/2006	EXAMINER	
BUCKLEY, MASCHOFF, TALWALKAR LLC			MAI, ANH T	
5 ELM STREET			ART UNIT	
NEW CANAAN, CT 06840			PAPER NUMBER	
			2832	

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/736,336	KIM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anh T. Mai	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 12-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 29, 2006 has been entered.

### *Drawing.*

2. The mark-up version of figure 1 is objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 71, 72, 73, 74 and newly added "vector 70". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-3 and 5-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no written description of "a vector normal to the first section of an inductor that does not interest any other section of the inductor" in the original specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-3 and 5-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Limitation "a vector normal to the first section of an inductor that does not interest any other section of the inductor" is not clear. The examiner would consider there is an imaginary vector that normal to the inductor for the examination purposes.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Wakamatsu [JP 11219825] in view of Kyriazidou [6759937].

Wakamatsu discloses:

- a first portion of a spiral inductor L1 disposed in a first layer of multilayer substrate;
- second portion of spiral inductor L2 disposed in a second layer of multilayer substrate;
- a shielding plane [ground plane] disposed between the first portion and the second portion of the inductor [figure 3].

Wakamatsu discloses the invention as claimed as cited above except for the second portion of the inductor coupled at a plurality of locations to the first portion. Kyriazidou discloses a multilayer inductor having first portion of winding 12 on first layer 14 of integrated circuit, second portion winding 16 on first layer, third portion winding 18 on second layer 20 of integrated circuit; the first portion winding 12 connected to third portion winding 18 by interconnecting 24, second winding portion 16 connected to fourth winding portion 22 by interconnecting structure 24; an imaginary vector normal to a first section of the inductor 52 on a first layer 54 will not intersect any other section of the inductor [figure 6; col 5, lines 32-39]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the multiple layer inductor as taught by Kyriazidou to the inductor as disclosed by Wakamatsu. The motivation would have been to minimize the use of integrated circuit real estate, operates at high frequencies and has a relatively high Q factor [col 4, lines 65-68]. Therefore, it would have been obvious to combine Wakamatsu with Kyriazidou.

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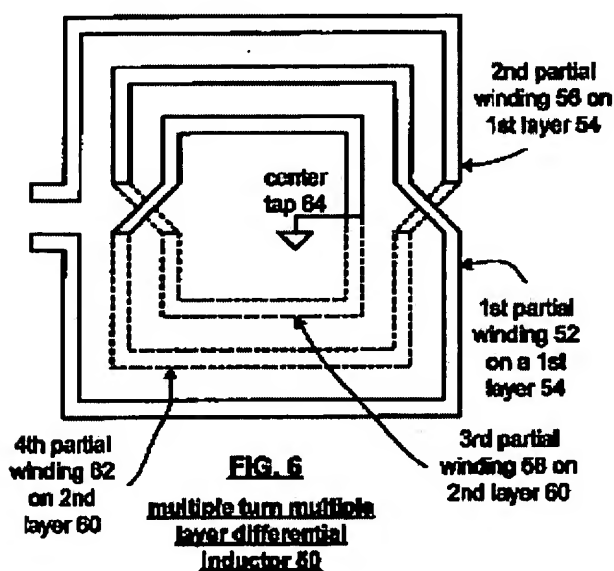
With respect to claim 3, current is to flow in the first direction in the first portion and second direction in second portion opposite to the first direction [figure 3].

With respect to claim 6, Kyriazidou discloses vias 24 coupled the first and second portions.

With respect to claim 7, Wakamatsu discloses pin holes 9 coupled the first and second portions.

With respect to claim 8, dielectric layer 7a disposed between first layer and shielding plane and layer 6a disposed between second layer and shielding plane.

With respect to claims 9-11, the claims are rejected for reciting method/step derived from the structure of claims 1-3 which are rejected above.



### *Response to Arguments*

6. Applicant's arguments filed June 29, 2006 have been fully considered but they are not persuasive.

Applicant indicates that the marked-up version of figure 1 showing the device, among other things, first layer 20 has first portion 71, second portion 72; second layer has third portion 73 and fourth portion 74 and vector 70 normal to a section of inductor. However, these are considered new subject matters that are not supported by the original disclosure.

Applicant argues that the art of record is not seen to disclose or suggest a vector normal to a first section of an inductor that does not intersect any other section of the inductor as shown in figure 4 of Kyriazidou. The examiner strongly disagrees. As shown in another embodiment of Kyriazidou of figure 6, if a vector is drawn normal to any point of any sections 52, 56, 58, 62, it does not intersect other sections of the inductor.

#### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 form.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 571-272-1995. The examiner can normally be reached on 5/4/9 Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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**ANH MAI  
PRIMARY EXAMINER**